



Traffic-related air pollution, climate, and prevalence of eczema in Taiwanese school children

Author(s): Lee YL, Su HJ, Sheu HM, Yu HS, Guo YL
Year: 2008
Journal: The Journal of Investigative Dermatology. 128 (10): 2412-2420

Abstract:

The prevalence of childhood eczema is increasing in many countries. Epidemiological studies, however, say little of its association to outdoor air pollution and climate factors. We conducted a nationwide survey of middle-school students in Taiwan from 1995 to 1996. The 12-month prevalence of eczema was compared with air monitoring station data of temperature, relative humidity, and criteria air pollutants. A total of 317,926 children attended schools located within 2 km of 55 stations. Prevalence rates of recurrent eczema were 2.4 and 2.3% in boys and girls, respectively, with prevalence rates of flexural eczema 1.7% in both sexes. After adjustment for possible confounders, flexural eczema was found to be associated with traffic-related air pollutants, including nitrogen oxides and carbon monoxide. Recurrent eczema was associated with traffic-related air pollution only in girls. There were no associations for the highest monthly means of temperature, whereas the annual means and the lowest monthly means of temperature were negatively related to flexural eczema, but only in girls. The lowest monthly mean relative humidity was positively related to eczema. The results suggest that air pollution and climatic factors, which showed stronger associations in girls than boys, may affect the prevalence of childhood eczema.

Source: <http://dx.doi.org/10.1038/jid.2008.110>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors

Air Pollution: Interaction with Temperature, Ozone, Particulate Matter, Other Air Pollution

Air Pollution (other): SO₂, CO, NO_x

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Climate Change and Human Health Literature Portal

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Taiwan

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Dermatological Effect

Population of Concern: A focus of content

Population of Concern: ☒

populations at particular risk or vulnerability to climate change impacts

Children

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified